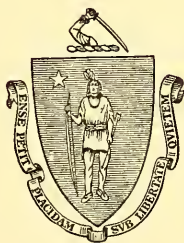


TWENTY-SIXTH ANNUAL REPORT
OF
THE COMMISSIONERS
OF THE
MASSACHUSETTS NAUTICAL
SCHOOL

JANUARY 1, 1918



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COMMISSIONERS
OF THE
MASSACHUSETTS NAUTICAL SCHOOL

2A PARK STREET, BOSTON

FRANCIS T. BOWLES, *Chairman*

WILLIAM E. MCKAY

CLARENCE E. PERKINS

WILLIAM H. DIMICK, *Secretary*

The Commonwealth of Massachusetts.

MASSACHUSETTS NAUTICAL SCHOOL.

To the Senate and House of Representatives of the Commonwealth of Massachusetts.

The commissioners have the honor to submit their report of the operations of the school for the year 1917, the twenty-sixth year of the maintenance of this maritime school by the Commonwealth.

THE PURPOSE OF THE NAUTICAL SCHOOL AND THE COURSE OF INSTRUCTION.

The course of instruction, given in detail later in this report, covers two years, and is intended to prepare young men for service as deck and engineer officers in the American merchant marine. The instruction is carried out on board the U. S. S. "Ranger," a steam sloop-of-war, loaned to the Commonwealth by the United States Navy Department. The students are divided into four classes, one graduating each spring and autumn; they are instructed by the officers of the ship, who also on the summer cruise, extending from May until October, perform the regular ship duties of their positions. During the winter months the "Ranger" is moored at the North End Park in Boston, and the school continues on board the ship. Students are admitted by competitive examination in the spring and fall. The expense to those taking the course is limited to the cost of clothing, books, etc., amounting to \$90 the first year and \$25 the second year.

THE SCHOOL RECORD.

During the year there have been 167 students on the rolls of the school, the sons of citizens of Massachusetts. They came from 77 cities and towns of the Commonwealth, and their previous education was as follows: high schools, 138; academies, 6; technical schools and business colleges, 3; grammar schools, 20. The average age of the cadets at entrance was seventeen years. There have been graduated during the year 36 cadets, 12 in the spring and 24 in the autumn. The number of cadets enrolled in the school at present is 112, this being the largest number the "Ranger" can accommodate.

GRADUATION EXERCISES.

Graduation exercises were held on March 19, 1917, at the close of the winter term. The chairman, Mr. Francis T. Bowles, presided, and the cadets were addressed by Lieutenant Governor Calvin Coolidge. The Alumni Association of the school offered prizes to the two cadets receiving the highest marks in studies and practical work; these prizes were awarded to Luther C. Kingsbury in the seamanship class and to Herbert A. James in the engineering class.

The autumn graduation exercises were held on September 13, the ship being anchored in the harbor. The principal address was made by Mr. Clarence E. Perkins, a commissioner of this school.

THE DEMAND FOR NAUTICAL EDUCATION.

The demand for nautical education has increased so that the school cannot accommodate one-half of the qualified applicants for admission, as was evidenced at the entrance examination held in September when 148 boys took the examination to fill 24 vacancies.

A ship with accommodations for 200 pupils would better meet the needs of the school. On account of the existing urgent need of ship tonnage for purposes of the war it would be difficult, if not impossible, to obtain for the use of the school at the present time a much larger ship than the "Ranger;" but it might be possible to obtain a ship of the same size that could be used for a port ship, keeping the U. S. S. "Ranger" for cruising pur-

poses, so that half of the cadets could be under practical instruction at sea while the other half was studying and training on board the port ship. In this way the number of cadets graduated each year would be doubled at this time when their services are of the highest importance to the merchant marine.

Graduates of the school who have reached the age of nineteen years are eligible immediately for examination for a third officer's license or for a third assistant engineer's license.

The European war places upon the United States the burden and duty of providing ship tonnage for the commerce of the world, and the output of training schools (similar to that which has been maintained by Massachusetts for the past twenty-six years) will be continuously required to furnish officers for the rapidly expanding fleet now under construction.

THE ASSIGNMENT OF GRADUATES.

Through the effective co-operation of shipowners, marine superintendents and officers, the commissioners have continued to place graduates in satisfactory positions in the merchant marine; as already indicated the demand for the graduates is in excess of the number that become available from year to year.

REVISED RULES OF THE UNITED STATES STEAMBOAT INSPECTION SERVICE.

Amendments to the General Rules and Regulations of the United States Steamboat Inspection Service, approved by the Secretary of Commerce on June 12, 1917, have an important bearing upon the graduates of the school, and greatly improve their status as they enter upon the work of their calling.

Under the new rules a graduate nineteen years of age is eligible for examination for a third officer's license; after three months' service in the deck department of ocean or coastwise steam vessels he is eligible for a second officer's certificate; after one year's service as a licensed second officer he is eligible for a chief officer's certificate; after one year's service as chief officer of ocean steam vessels he is eligible for a license as master.

A graduate nineteen years of age is eligible for examination for a third assistant engineer's license; after three months' service in the engine department of ocean or coastwise steam

vessels he is eligible for a second assistant engineer's license; after six months' service in the engine department of ocean or coastwise steam vessels he is eligible for a first assistant engineer's license; after one year's service as first assistant engineer of ocean or coastwise steam vessels he is eligible for a chief engineer's license.

Under these rules it is possible for a seaman graduate to obtain a master's license at the age of twenty-one years and three months, and an engineer graduate can obtain a license as chief engineer when he is twenty-one years of age.

GRADUATES IN THE WAR.

At the time the school was established twenty-six years ago, it was believed that the graduates would be a valuable reserve upon which the Navy Department could call for officers in time of war, and that this belief was well-founded was clearly demonstrated in 1898 during the Spanish-American war. It is again proving true in the present war. Many graduates have volunteered for duty in the Navy, others are serving on board American merchant vessels, and a large number are officers on board ships sailing in European waters. The work that they are doing at the present time, both in the merchant service and in the Navy, is well maintaining the excellent record already established.

NAUTICAL SCHOOLS IN OTHER STATES.

The work of nautical education, which has heretofore been maintained only in the States of Massachusetts, New York and Pennsylvania, is now being planned by other Commonwealths. A number of States privileged under the Federal statutes of June 30, 1874, as amended on March 4, 1911, are preparing to enter upon this work. Early in 1917 the State of Washington enacted a law providing for the establishment of a nautical school at Seattle, to be known as the Washington State Nautical School; and the State of California has enacted a law establishing a nautical school in that State, probably at San Francisco. These two Pacific coast schools will follow closely the organization and methods of the Massachusetts School. In Virginia and in New Jersey initial steps have been taken looking to the establishment of similar nautical schools.

THE AMERICAN MERCHANT MARINE.

A marked improvement has taken place in the American merchant marine during the past twenty-five years. Shipping conditions to-day are in striking contrast to the unfavorable conditions prevailing in the year 1895 when the first graduates were sent out from the school. In 1893 and 1894, the first and second year of the operation of the school, American tonnage showed a decrease. In those days the United States had practically no foreign tonnage; the American flag was seldom seen in the ports of Europe, South America and Asia, and there were very few opportunities for the graduate who desired to sail on a deep-sea voyage. To-day American ships are sailing in large numbers to European, South American and Asiatic ports. In 1895 American tonnage of all kinds totaled 4,635,000 tons; it is estimated that during the next twelve months the government will launch ships suitable for the foreign trade totaling 4,000,000 tons. To-day our entire country is largely concerned in building up a large ocean-going fleet. Young men with an inclination for a seafaring life can follow their natural bent with an ambitious confidence in a promising future for American shipping.

SUPERINTENDENT'S REPORT.

Following is the report of Capt. P. W. Hourigan, U. S. N., superintendent of the school: —

The cruising field of the ship was restricted, as during the previous two summers, owing to the war. In fact, it was deemed advisable to omit the former cruise to the West Indies as the conditions at sea were somewhat uncertain, even though the risk was small. This resulted in further narrowing the scope of the work; the benefits to be gained from long periods of off-shore cruising were lacking, but, on the other hand, greater attention could be given, and was given, to the elements which were made available. A regular daily routine of drills and exercises was established, including afternoon instruction and school, which was rarely interrupted. When underweigh, regular watches were carried on with the attendant routine.

Occasion was taken to run at night where it was not strictly necessary, and in foggy weather to give practice and opportunity to observe the methods under these conditions. The older cadets were given the most responsible duties consistent with the safety of the ship, such as actually

taking charge of the watch by day; laying down, steering and checking up their own courses, etc. There was at all times a cadet officer of the watch when underweigh, and he was required, under the general observation of the regular officer of the watch, to carry on. All acquitted themselves very creditably.

The conduct of the cadets, both when on shore liberty and on board, was generally excellent. They were universally prompt in returning aboard. On shore they presented a smart appearance, upon which many people in the various places visited took occasion to comment most favorably. This was particularly true of the places frequently visited and where the cadets became familiarly known.

As shown in the itinerary appended, the ship after her usual spring overhauling sailed from Boston on April 25 and returned on September 12. The limits of the cruise were the western end of Long Island Sound and Bar Harbor, Me.; the total distance covered in the direct runs was about 2,500 miles; in addition, the ship on frequent occasions, as reported in detail at various times, made cruises in and out of port and digressed en route from port to port to carry on exercises.

Owing to the confined waters but little opportunity was presented for the use of canvas. Sail exercises were held, however, to give cadets some familiarity with the use of sail, which it is possible may at some time be useful to them.

All provisions and supplies were higher in price than last year, so that careful economy in expenditures had to be constantly exercised.

In the withdrawal from the staff of the ship of the Naval Reserve officers the efficiency of the school was at one time seriously threatened, but three graduates, Mr. J. W. Thompson, Mr. Edward Smith and Mr. Frederick W. Farquhar offered their services (at a very considerable sacrifice), so that the work, though a little shorthanded, did not materially suffer.

Before sailing there was installed on board, by order of the Navy Department, the ship's battery of four 6-pounders with their service ammunition; the ship was also painted the regulation Navy gray, "war color." This gave to the ship a new dignity and brought about a feeling (valuable to be inculcated in youth at this time) of being part of the war establishment. Sub-caliber practice was held on several occasions and "general quarters" was added to our regular exercises. When cruising out of enclosed waters extra lookouts were stationed at all times, the battery kept manned, and ammunition on deck, — practice in preparedness and readiness for the cadets.

The following summarizes the general instruction in each department, as reported by the respective heads.

SEAMANSHIP.

The exercises in boats under oars and under sail were carried on throughout the cruise; only oars were used until each cadet could pull a good oar. Then instruction under sail was taken up, developing many good boat

sailors and a fair amount of proficiency in all. Cadets were also encouraged in making use of the boats for their own pleasure, sailing, fishing, etc. All routine running trips were, as a rule, made by the pulling boats, the motor boat being reserved for special occasions.

A new 30-foot motor boat (standard Navy) was furnished the ship at the Portsmouth Navy Yard in place of the former one which was old and unsatisfactory. A new 24-foot motor sailer is now awaiting us at the Boston Navy Yard; this will take the place of a 28-foot cutter. These will afford excellent practice in handling this type of boat, now so much in use.

Instruction in handling heavy anchors and in warping the ship was given on two occasions, — once to shift the berth in Nantucket and once in warping alongside at New London.

The ship was moored on several occasions both with and without the mooring swivel. The frequent anchoring and getting underweigh, with the incidental foul anchor, gave ample instruction in handling ground tackle.

The "emergency" exercises of fire, collision, abandon ship, and man overboard were regularly carried on.

At all times, at anchor and underweigh, the regular ship duties were carried on by the cadets and all the ship's work done almost entirely by them (there were no mates and but three seamen in the crew). This embraced everything in the ship's daily life, — duties of officers, lookouts, leads, life boats, bridge navigation, care of ship, etc.

The winter's work in knotting and splicing, sailmaking, etc., was continued at every opportunity.

NAVIGATION.

At sea, off the New England coast and even in certain reaches of the Nantucket and Long Island sounds there were accorded opportunities at times to obtain altitudes of the sun and stars from which lines of position were obtained, either by the Sumner method of assuming two latitudes or the more advantageous method of Marc St. Hilaire. One feature of this inland nautical astronomy was that islands or headlands would sometimes intervene and the cadets would have to operate their sextants quickly or the sea horizon would be lost. "Catching the sun" under these conditions required the same skill and speed in operating the sextant as in obtaining altitudes of the sun or stars through the clouds at sea, and the results clearly showed that the cadets were well grounded.

While the deep-sea navigation suffered from confining the ship to limited coastal waters, nevertheless the handling of the ship in pilot waters, that most highly important branch of ocean navigation, has received excellent attention. Not only did the cadets receive classroom instruction in the system of buoyage, use of charts, sailing directions, tide tables, three-armed protractor, together with a thorough drilling in the use of the lead, log and lookout, but they had an excellent chance to use all those principles in operation. There was not an hour of the time from anchorage to anchorage that some one was not receiving practical instruction in piloting,

either in class or in line of duty as officer of the deck, helmsman or leadsmen. The nature of the waters lent opportunities for practical instruction in the buoy system. The lighthouses and headlands offered means for the practical demonstration of the use of cross bearings and the three-armed protractor. The prevalence of much fog was the means of acquiring a good idea of the extra precautions taken to insure the safety of the ship under those conditions.

Owing to shoal water the sounding machine was not used as often as in other years, but the hand leads were in constant use.

In port the second and third class cadets received class instruction in the use of the various nautical instruments and their care, keeping the log, working dead reckoning, pilot rules, rules of the road, aids to navigation, buoy systems, etc. This, in conjunction with practical work in piloting during the short runs between anchorages, was an unusual opportunity to combine practical and theoretical coast navigation.

MEDICAL.

The general condition of the health of cadets has been excellent during the entire cruise.

Comparative measurements of weight, height and chest expansion show the following:—

	May 26.	September 8.
Average weight,	139.21 pounds.	146.6 pounds.
Average height,	5 feet 7.6 inches.	5 feet 7.8 inches.
Average chest expansion,	2.42 inches.	2.75 inches.

This gives an average increase of 7.39 pounds in weight, .2 of an inch in height and .33 of an inch in expansion.

All cadets were vaccinated during the preliminary cruise.

During the months of May and June each cadet received three inoculations of antityphoid serum, with no untoward result in any case.

Instruction in first aid was given as occasion permitted during the entire summer cruise.

STEAM.

Senior cadets were instructed in firing, water-tending, oiling, operation of main and auxiliary machinery, scraping in, taking leads off and taking up lost motion in bearings of same, finding dead center of valve setting, inspection, care and preservation of boilers and testing of water in same, examination of and testing for leaky condenser, examination, overhaul and repairs of steam and water ends of pumps, taking indicator diagrams and checking same for defects; also finding indicated horsepower and coal and water consumption per horsepower from same; safety valve

setting, propeller, coal consumption and power problems, — questions likely to be asked by steamboat inspectors from third assistant to chief engineer.

Junior cadets were instructed in coal passing, firing, uses of firing tools and boiler fittings, care and preservation of hull.

ELECTRICITY.

First and second class nautical cadets were given instruction and practice in the use of Continental Morse Code for night signaling, each cadet being required to qualify in sending and receiving by sight and sound.

The engineer cadets were given instruction in the various types of construction of armatures and field magnets of dynamos, faults and remedies, direct and alternating current systems, repairs to and care of the ship's electrical plant.

Under the supervision of the electrician each cadet was assigned full charge of the ship's electrical apparatus, being required to tend the starting, shifting load and stopping dynamos and to make the necessary repairs to dynamos, motors, lights, call bells, primary and secondary batteries.

Parts of lighting circuits were overhauled, removed and new circuits installed, the cadets being required to do the work as far as possible. Cadets were selected for radio instruction, passing the government examination for license at the end of the winter term and summer cruise. Members of the radio detail were assigned to regular radio watch at sea, keeping a record of calls and communications heard, and assisted in the care and upkeep of the set, making repairs as found necessary.

ORDNANCE.

"General quarters," *i.e.*, exercise of the battery, with the attendant ammunition supply: stations were held weekly, together with pointing and aiming instruction, "spotting," etc., which served to illustrate the uses of the ship's armament. On two occasions sub-caliber practice was held at anchor, a small float with miniature target anchored 400 yards distant being used.

In "small arms" the routine instruction was given, and on several occasions the company of cadets landed for drill in "extended order" maneuvers. The first class was landed for rifle firing practice at 200 yards and pistol (Navy automatic) practice at 50 yards. It was intended to carry on more of this practice but range facilities were lacking in the ports visited.

ITINERARY.

PORTS.	Distance (Miles).	Left.	Arrived.
Boston-Gloucester,	27.0	Apr. 25	Apr. 25
Gloucester-Marblehead,	11.8	Apr. 26	Apr. 26
Marblehead-Gloucester,	12.0	Apr. 27	Apr. 27
Gloucester-Provincetown,	48.7	May 1	May 1
Provincetown-Woods Hole,	92.0	May 2	May 2
Woods Hole-New London, Conn.,	86.0	May 4	May 4
New London-Orient Harbor, L. I.,	21.8	May 7	May 7
Orient Harbor-Woods Hole,	84.8	May 8	May 9
Woods Hole-Edgartown,	35.3	May 16	May 16
Edgartown-Vineyard Haven,	24.6	May 17	May 17
Vineyard Haven-Norwalk, Conn.,	130.4	May 18	May 18
Norwalk-New Rochelle, N. Y.,	26.0	May 19	May 19
New Rochelle-New London, Conn.,	89.3	May 21	May 21
New London-Woods Hole,	78.0	May 24	May 24
Woods Hole-Nantucket,	35.2	May 28	May 28
Nantucket-Edgartown,	25.0	June 4	June 4
Edgartown-Vineyard Haven,	9.0	June 7	June 7
Vineyard Haven-Woods Hole,	6.5	June 11	June 11
Woods Hole-Nantucket,	32.5	June 18	June 18
Nantucket-Rockport,	105.0	June 25	June 25
Rockport-Boothbay, Me.,	82.0	June 26	June 26
Boothbay-Portsmouth, N. H.,	73.0	June 29	June 29
Portsmouth-Nantucket,	132.5	July 5	July 6
Nantucket-New Rochelle, N. Y.,	177.9	July 17	July 18
New Rochelle-New London,	91.9	July 23	July 23
New London-Marion,	76.0	July 26	July 26
Marion-Woods Hole,	19.9	July 29	July 29
Woods Hole-Nantucket,	31.0	July 30	July 30
Nantucket-Bar Harbor, Me.,	219.0	Aug. 6	Aug. 7
Bar Harbor-Boothbay,	92.7	Aug. 10	Aug. 11
Boothbay-Portsmouth, N. H.,	73.4	Aug. 13	Aug. 14
Portsmouth-Nantucket,	132.0	Aug. 20	Aug. 21
Nantucket-Vineyard Haven,	29.0	Aug. 28	Aug. 28
Vineyard Haven-Newport, R. I.,	51.0	Aug. 29	Aug. 30
Newport-Woods Hole,	41.0	Sept. 4	Sept. 4
Woods Hole-Edgartown,	18.0	Sept. 5	Sept. 5
Edgartown-Nantucket,	25.0	Sept. 6	Sept. 6
Nantucket-Marblehead,	104.0	Sept. 10	Sept. 11
Marblehead-Boston,	20.0	Sept. 12	Sept. 12
	2,470.2		



Route of the Massachusetts nautical training ship "Ranger," 1917. Length of cruise, 2,470 miles.

COAL REPORT.										Tons.
On hand and received,	.	.	.	.	.	.	.	.	.	586.3
Expended, . . . . .	.	.	.	.	.	.	.	.	.	490.7
										<hr/>
Remaining, . . . . .	.	.	.	.	.	.	.	.	.	95.6
Expended as follows: —										
Moving ship, . . . . .	.	.	.	.	.	.	.	.	.	193.3
Dynamos and other auxiliaries, . . . . .	.	.	.	.	.	.	.	.	.	215.7
Distilling, . . . . .	.	.	.	.	.	.	.	.	.	48.7
Heating, . . . . .	.	.	.	.	.	.	.	.	.	5.2
Galley, . . . . .	.	.	.	.	.	.	.	.	.	27.8
										<hr/>
Total expended, . . . . .	.	.	.	.	.	.	.	.	.	490.7

THE WINTER TERM.

The winter term commenced on Oct. 15, 1917, with an enrollment of 112 cadets, the total number that could be accommodated on board the "Ranger." The ship is moored at the North End Park, Boston, the usual berth.

A course of lectures on appropriate subjects to supplement the regular studies is scheduled for delivery on board the "Ranger" on Wednesday evenings. Those so far provided are as follows: —

Capt. John A. Cook. Subject: Whaling in the Arctic Ocean.

Surgeon M. H. Foster, United States Public Health Service. Subject: Maritime Quarantine Regulations.

Capt. Eugene E. O'Donnell, Supervising Inspector, Fifth District. Subject: United States Steamboat Inspection Service.

Mr. Winthrop L. Marvin. Subject: The American Merchant Marine.

Assistant Naval Constructor Thomas B. Richey, U. S. N. Subject: Salvage Operations.

Assistant Naval Constructor Samuel J. Ziegler, U. S. N. Subject: Stability and Displacement.

Mr. Wilfred O. White. Subject: Compass Adjustment.

The following is the study schedule for the winter term of 1917-18: —

OFFICERS AND INSTRUCTORS OF THE SCHOOL.

The following are the officers and instructors now connected with the school: —

Superintendent and commanding officer, Capt. P. W. Hourigan, U. S. N.
Executive officer, Lieut. James O. Porter, U. S. N. R. F.
Navigator, Mr. Edward Smith (graduate M. N. S.).
First Lieutenant and instructor, Chief Boatswain Ernest V. Sandstrom, U. S. N.
Watch officer, Chief Boatswain, Nicolai Sivertsen, U. S. N. R. F.
Watch officer, John W. Thompson (graduate M. N. S.).
Chief engineer, Machinist John O'Neill, U. S. N.
Medical officer, Irvine L. Nowlan, M.D.
Paymaster and captain's clerk, Adolph E. Salsburg.
Electrician, Frederick W. Farquhar (graduate M. N. S.).

PERSONNEL.

July 1, 1917, William E. McKay of Milton reappointed a commissioner.

March 28, 1917, Russell C. Damon appointed watch officer.

April 14, 1917, Frank H. Nelson appointed watch officer.

April 15, 1917, Charles A. Scott, electrician, resigned.

April 24, 1917, Lieut. Thalbert N. Alford, U. S. N., executive officer, detached.

May 24, 1917, A. Russell Cushing, navigator, resigned.

May 29, 1917, Frank H. Nelson, watch officer, resigned.

May 29, 1917, Russell C. Damon, watch officer, resigned.

May 30, 1917, Albert L. Ware, watch officer, resigned.

May 30, 1917, Ernest V. Wyatt appointed assistant instructor.

May 30, 1917, Harry Levine appointed assistant instructor.

June 1, 1917, Chief Boatswain Ernest V. Sandstrom, U. S. N., watch officer, rated executive officer.

June 1, 1917, Chief Boatswain Nicolai Sivertsen, U. S. N. R. F., rated watch officer.

June 19, 1917, Edward Smith appointed navigator.

June 20, 1917, Dr. Irvine L. Nowlan appointed surgeon.

June 21, 1917, Dr. Gardner N. Cobb, surgeon, granted leave of absence.

July 2, 1917, John W. Thompson appointed watch officer.

July 16, 1917, Frederick W. Farquhar appointed assistant engineer and electrician.

July 25, 1917, Harry Levine, assistant instructor, resigned.

September 13, 1917, Ernest V. Wyatt, assistant instructor, resigned.

Oct. 11, 1917, Chief Boatswain Ernest V. Sandstrom, U. S. N., rated first lieutenant and instructor.

Oct. 11, 1917, Lieut. James O. Porter, U. S. N. R. F., appointed executive officer.

MEMBERSHIP OF THE SCHOOL.

Graduating Class, March, 1917.

Boyd, Dwight W.,	. . . . .	Randolph.
Crosbie, Percy A.,	. . . . .	Everett.
Dennen, Charles R.,	. . . . .	Gloucester.
Foy, John T.,	. . . . .	Bridgewater.
Francis, Earl S.,	. . . . .	Athol.
James, Herbert A.,	. . . . .	Sherborn.
Jensen, Ernest C.,	. . . . .	Provincetown.
Kingsbury, Luther C.,	. . . . .	Wellesley Hills.
Moore, Frank M.,	. . . . .	Forest Hills.
Nichols, Philip G.,	. . . . .	Peabody.
Preston, William M.,	. . . . .	Beverly.
Sheridan, Robert H.,	. . . . .	Stoneham.

Graduating Class, September, 1917.

Atwood, Franklin B.,	. . . . .	Nantucket.
Barton, Alan R.,	. . . . .	Winthrop.
Borden, Alton E.,	. . . . .	Fall River.
Freeman, Ivan,	. . . . .	East Orleans.
Huffman, Charles F.,	. . . . .	Waltham.
Levine, Harry,	. . . . .	Cambridge.
Little, Philip H.,	. . . . .	Holbrook.
MacLaughlin, Sydney L.,	. . . . .	Wollaston.
MacWhinnie, Donald,	. . . . .	New Bedford.
Massey, Arthur,	. . . . .	Lawrence.
McGourty, James A.,	. . . . .	Worcester.
McLaren, David M.,	. . . . .	Dedham.
Murphy, Arthur D.,	. . . . .	Beverly.
Noonan, John D.,	. . . . .	Mansfield.
Phelan, Arthur S.,	. . . . .	East Lynn.
Plummer, Kenneth H.,	. . . . .	Roxbury.
Raby, Ernest E.,	. . . . .	North Easton.

Roberts, Stanley F.,	Springfield.
Rowe, A. Henry,	Roslindale.
Storey, William W.,	Stoneham.
Susmann, Herbert W.,	Dorchester.
Thresher, Russell W.,	Southbridge.
Wilson, Bradford S.,	Quincy.
Wyatt, Ernest V.,	Boston.

Class to Graduate, March, 1918.

Anderson, Robert P.,	Melrose.
Blair, Andrew C., Jr.,	Fall River.
Carden, John R.,	Haverhill.
Clark, Wesley C.,	Arlington Heights.
Crowley, James J., Jr.,	North Abington.
Cunningham, George M.,	Lawrence.
Dean, Ira D.,	South Natick.
Donlin, John R.,	Medford.
Evers, Ralph A.,	Medford.
Fitzgerald, William H.,	Revere.
Freeman, Joseph,	Revere.
Glines, Edgar G.,	Beverly.
Hill, Raphael W.,	Provincetown.
Hovland, Almer T.,	Newton Lower Falls.
Hurld, Bernard F.,	Stoneham.
Lowry, James H.,	Canton.
Mackie, Gordon C.,	Brookline.
McKenzie, James C.,	Roxbury.
Newman, Karl W.,	Brockton.
Perry, Frank V., Jr.,	Provincetown.
Popkin, Jacob I.,	Malden.
Roswall, Clifford,	Medford.
Smith, John E.,	Stoneham.
Strout, Alden L.,	Boston.
Woods, Wilbur W.,	Provincetown.
Wright, Laurence A.,	Falmouth.

Class to Graduate, September, 1918.

Abbott, Raymond P.,	Newburyport.
Anderson, Alexander G.,	Dorchester.
Caswell, Leonard N.,	Fall River.
Colson, Stuart R.,	Whitman.
Damon, Harold S.,	Plymouth.
Distelman, Max,	Newburyport.
Easton, Francis J.,	Randolph.
Ford, Edward J.,	Wakefield.

Fraser, James E.,	Boston.
Gibbs, Arthur B.,	Nantucket.
Heaney, James R.,	Lynn.
Hoffses, Hartley,	Quincy.
Johnson, Louis H.,	Medford.
Kelly, Elmer J.,	Springfield.
Lowey, LeRoy B.,	Woods Hole.
Moore, James R.,	East Lexington.
Reagh, William S.,	Cliftondale.
Sample, Raymond H.,	Montello.
Sanborn, Gerald K.,	Lawrence.
Saunders, Raymond E.,	Somerville.
Stevens, Paul A.,	Stoneham.
Stockbridge, George R.,	Wellesley.
Walen, Leonard C.,	Gloucester.

Class to Graduate, March, 1919.

Bailey, Warren L., Jr.,	Worcester.
Beatty, James F.,	Lowell.
Bossom, Charles F.,	Arlington.
Burnap, C. Cameron,	Lunenburg.
Carey, Walter E.,	Holyoke.
Cosgrove, Frank T.,	Worcester.
Couple, Frank J.,	Montello.
Cunningham, John D.,	Quincy.
DeLeskey, Frederick T.,	East Boston.
Donahoe, John W.,	Dorchester.
Fraser, Jack A.,	Medford.
Gardiner, Nelson E.,	West Fitchburg.
Hall, Roy D.,	Dennis.
Hanna, Guy M.,	Waltham.
Hopkins, Harry E.,	North Eastham.
Kenyon, Chesley L.,	Chester.
Littlefield, Gordon A.,	Cambridge.
Lord, Harry C.,	Springfield.
Moulton, William H.,	Bedford.
Nelson, Herbert A.,	West Newton.
O'Brien, Robert S.,	Malden.
O'Leary, Arthur,	South Boston.
Purdy, Paul E.,	Everett.
Reed, Sherman W.,	Dorchester.
Roberts, Llewellyn H.,	Arlington.
Sanford, Loran H.,	Watertown.
Scully, Charles B.,	Rockland.
Torrey, Charles W.,	Rockland.

Vincent, Rudolphus N.,	Vineyard Haven.
Walker, Albert E.,	Lawrence.
Wilkinson, Harold B.,	Lynn.

Class to Graduate, September, 1919.

Barrus, Adelburt,	Edgartown.
Bemis, Edmond F.,	East Lynn.
Clements, George C.,	Lynn.
Cotter, Thomas F., Jr.,	Lawrence.
Cronin, Walter J.,	Somerville.
Cusolito, Dominik J.,	Somerville.
Flynn, John E.,	Salem.
Forsberg, George E.,	Worcester.
Gilman, Charles E.,	Somerville.
Gosselin, Joseph W.,	Nahant.
Harrington, Francis J.,	Revere.
Henderson, George A.,	Brighton.
Holmes, Carl W.,	North Easton.
Howe, Harry C.,	Stoneham.
Jenness, Walter W.,	Malden.
Longmore, Harold T.,	Stoneham.
Macintyre, Ronald G.,	Fall River.
Mahoney, John J.,	Revere.
McNulty, Richard R.,	Gloucester.
Mitchell, Charles B.,	Lawrence.
Morin, Edward H.,	Stoneham.
Morrill, Arthur G.,	Melrose.
Needham, Alfred A.,	Manchester.
Nickerson, Richard F.,	South Duxbury.
O'Leary, Stephen J.,	East Dedham.
Presson, Walter S.,	Malden.
Stickel, Chas. H.,	East Lynn.
Stone, Paul,	Pigeon Cove.
Studley, William B., Jr.,	Fairhaven.
Smith, Harding,	Nantucket.
Walcott, Roger N.,	Concord.
Waters, Ernest B.,	Nahant.

CADETS ADMITTED, GRADUATED, AND HONORABLY DISCHARGED, FROM 1893 TO 1917, INCLUSIVE.

	ADMITTED.			GRADUATED.			HONORABLY DISCHARGED.			Withdrawn, dismissed, dropped.	Number connected with the School.
	Sea- manship Class.	Engineer Class.	Totals.	Sea- manship Class.	Engineer Class.	Totals.	Sea- manship Class.	Engineer Class.	Totals.		
1893,	138	-	138	-	-	-	29	-	29	24	138
1894,	42	21	63	-	-	-	26	17	43	18	156
1895,	33	38	71	19	19	38	6	6	12	6	156
1896,	35	39	74	20	17	37	16	15	31	17	174
1897,	32	41	73	20	21	41	10	10	20	9	165
1898,	42	57	99	15	25	40	12	14	26	23	194
1899,	34	45	79	11	12	23	24	17	41	11	184
1900,	28	50	78	14	36	50	9	12	21	14	186
1901,	34	37	71	11	18	29	8	12	20	16	172
1902,	32	58	90	16	22	38	16	18	34	13	197
1903,	34	32	66	17	14	31	10	15	25	17	178
1904,	-	-	60	16	29	45	5	12	17	31	165
1905,	-	-	65	10	10	20	-	-	9	13	137
1906,	-	-	50	16	19	35	-	-	18	19	145
1907,	-	-	60	10	15	25	-	-	17	26	133
1908,	-	-	45	8	9	17	-	-	9	9	110
1909,	-	-	81	14	22	36	-	-	7	16	156
1910,	-	-	54	6	15	21	-	-	16	15	131
1911,	-	-	69	20	23	43	-	-	7	18	168
1912,	-	-	57	17	16	33	-	-	14	16	157
1913,	-	-	79	21	19	40	-	-	20	8	174
1914,	-	-	65	20	16	36	-	-	22	7	171
1915,	-	-	70	26	19	45	-	-	18	11	176
1916,	-	-	73	23	15	38	-	-	36	3	175
1917,	-	-	69	25	11	36	-	-	16	3	167
Totals,	-	-	1,799	375	422	797	-	-	528	302	-

¹ Since 1904 the cadets have been unclassified during the first year of their course.

REGISTER OF GRADUATES.
Officers in the Merchant Marine.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1894	James E. Reardon, . .	Roxbury, . .	Captain, . .	"Moldegaard" (4,500 tons).
1895	Walter J. Healey, . .	Worcester, . .	Captain, . .	"Bayway" (5,083 tons).
1896	Henry R. Bodge, . .	Wollaston, . .	Captain, . .	"Northland" (3,282 tons).
1896	George R. Lauriat, . .	Medford, . .	Captain, . .	"Gen. J. M. Brannan."
1896	Wm. N. P. Baker, . .	Dorchester, . .	Captain, . .	"Mariana" (3,063 tons).
1897	Chas. W. Clift, . .	Whitman, . .	Captain, . .	"Gen. J. M. Schofield."
1897	Emery Rice, . .	Brighton, . .	Captain, . .	"Mongolia" (13,658 tons).
1897	Willis Howes, . .	So. Yarmouth, .	Captain, . .	"El Aguileia."
1899	Edw. G. Smith, . .	Boston, . .	Captain, . .	"Freeport."
1900	William B. Knight, . .	Hull, . .	Captain, . .	"Firwood."
1900	James S. Howes, . .	Woods Hole, . .	Captain, . .	"Essex" (3,018 tons).
1900	Jos. E. Gately, . .	Marlborough, .	Captain, . .	"Willehad" (4,761 tons).
1901	Robert W. Tucker, . .	Kendal Green, .	Captain, . .	"McClellan."
1903	Nicholas J. Kane, . .	Whitman, . .	Captain, . .	"Panaman" (6,649 tons).
1904	Edward C. Roberts, . .	No. Beverly, . .	Captain, . .	"Alliance" (4,016 tons).
1906	William H. Lee, . .	Roxbury, . .	Captain, . .	"Houston."
1907	Frederic A. Gainard, .	Chelsea, . .	Captain, . .	- -
1911	Eugene E. Miller, . .	East Saugus, . .	Captain, . .	"Wico."
1894	Albert L. Warner, . .	Wollaston, . .	First officer, .	"Edward Pierce."
1895	Geo. L. P. Covell, . .	Roxbury, . .	First officer, .	Inter-Island Steamship Company.
1899	Walter S. Lynch, . .	Chelsea, . .	First officer, .	"Kroonland."
1899	Richard T. Blackford, .	Marblehead, . .	First officer, .	"Daylite."
1900	Alfred M. Cummings, .	Worcester, . .	First officer, .	"Edith."
1901	John J. Coholan, . .	South Boston, .	First officer, .	"Jonancy."
1901	Chas. D. Harrington, .	Cambridge, . .	First officer, .	"Mascotte."
1902	Edwin J. Madden, . .	Everett, . .	First officer, .	"St. Louis."
1903	Mark Woodbury, . .	Townsend, . .	First officer, .	"Texan."
1903	Benj. O'Connell, . .	Peabody, . .	First officer, .	"Vigilancia."
1905	Harold H. Gridley, . .	Dorchester, . .	First officer, .	"John D. Archbold."
1911	Norris T. Ela, . .	East Douglas, .	First officer, .	"Augusta."
1897	Edwin F. Darling, . .	West Dennis, . .	Second officer, .	"Jonancy."
1902	Wm. M. Chisholm, . .	No. Attleborough, .	Second officer, .	- -
1904	Leslie G. Holmes, . .	East Whitman, .	Second officer, .	"Antilles."
1907	Frazier L. Sears, . .	East Dennis, . .	Second officer, .	Standard Oil Company.
1907	Elmer B. Small, . .	North Truro, . .	Second officer, .	"James McGee."

Officers in the Merchant Marine — Continued.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1909	Harold C. Cooper, . .	Worcester, . .	Second officer, .	Standard Oil Com- pany.
1910	Franklin K. Tyler, . .	Beachmont, . .	Second officer, .	"Saramacca."
1911	Wesley F. Besse, . . .	South Hanson, .	Second officer, .	"F. Q. Barstow."
1912	Herbert A. Burns, . . .	New Bedford, .	Second officer, .	"Glenpool."
1912	Jos. M. Daniel, . . .	Osterville, . .	Second officer, .	"Albert Watts."
1913	Arthur G. Burt, . . .	Whitman, . .	Second officer, .	"Brazos."
1913	Kenneth E. Cahoon, . .	W. Tisbury, . .	Second officer, .	"F. Q. Barstow."
1913	Wilfred H. Senior, . . .	Boston, . . .	Second officer, .	"Erny."
1914	Samuel A. Gates, . . .	Malden, . . .	Second officer, .	"Panaman."
1915	Albert V. Jones, . . .	Fall River, . .	Second officer, .	"Cricket."
1915	Harold F. Craven, . . .	Lawrence, . .	Second officer, .	"Currier."
1915	Chas. H. Hurley, . . .	Westminster, .	Second officer, .	"Actaeon."
1915	Chas. E. Griffith, . . .	No. Cambridge, .	Second officer, .	"Munabro."
1916	John A. Rylander, . . .	Springfield, . .	Second officer, .	"Buenaventura."
1916	Peter J. Jakmauh, . . .	South Boston, .	Second officer, .	- -
1907	Herbert Garity, . . .	Boston, . . .	Third officer, .	"Carolyn."
1913	Philip J. Fanning, . . .	Needham, . .	Third officer, .	"Maracaibo."
1913	Everett O. Swinson, . .	E. Gloucester, .	Third officer, .	"Allianca."
1914	David Swinson, . . .	E. Gloucester, .	Third officer, .	Panama Line.
1915	Arthur A. Hovgaard, . .	Brookline, . .	Third officer, .	"Chas. Braley."
1915	Ronald B. Ford, . . .	Lawrence, . .	Third officer, .	"Orion."
1916	Richard Dunphe, . . .	Elmwood, . .	Third officer, .	"Lewis Lucken- bach."
1916	Paul H. Browne, . . .	Roslindale, . .	Third officer, .	"Camfield."
1916	Arthur J. Kenney, . . .	Brookline, . .	Third officer, .	"Texan."
1916	Chas. A. Martell, . . .	Somerville, . .	Third officer, .	"Shoshone."
1917	Luther Kingsbury, . . .	Wellesley, . .	Third officer, .	Crowell & Thurlow Company.
1917	Alan R. Barton, . . .	Winthrop, . .	Third officer, .	"Gulfstream."
1917	Russell W. Thresher, . .	Southbridge, . .	Third officer, .	"New York."
1917	Ernest V. Wyatt, . . .	Boston, . . .	Third officer, .	"O. P. Jennings."
1917	William W. Storey, . . .	Stoneham, . .	Third officer, .	"San Mateo."
1917	Stanley F. Roberts, . .	Springfield, . .	Third officer, .	- -
1917	Arthur S. Phelan, . . .	Lynn, . . .	Third officer, .	"Northern Bridge."
1911	Geo. L. E. Johnson, . .	Worcester, . .	Fourth officer, .	"New York."
1898	Eldon G. Freeman, . .	Whitman, . .	Bar pilot, . .	San Francisco.
1900	I. Clarence Bailey, . . .	Kingston, . .	Pilot, . . .	Boston Pilot Boat.
1895	Charles H. Lincoln, . .	Gloucester, . .	Marine surveyor, .	- -
1895	Michael D. Sullivan, . .	Boston, . . .	Chief engineer, .	"Rosecrans."

Officers in the Merchant Marine — Continued.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1897	Augustus T. Holmes, .	Ipswich, .	Chief engineer, .	"J. M. Guffey" (2,520 tons).
1897	Edw. J. Cogan, .	Lynn, .	Chief engineer, .	- -
1897	Charles E. Rowe, .	Lynn, .	Chief engineer, .	- -
1898	John C. Ganzer, .	Jamaica Plain, .	Chief engineer, .	"Caribbean" (2,800 tons).
1898	William E. Ballsdon, .	Neponset, .	Chief engineer, .	"Herman Winter" (2,625 tons).
1898	Wilbur S. Lamont, .	Leominster, .	Chief engineer, .	Panama Canal.
1900	Hollis M. Cornwall, .	Melrose, .	Chief engineer, .	"Persian" (2,677 tons).
1900	Norris Sibley, .	Worcester, .	Chief engineer, .	"Col. Wikoff."
1900	William Glover, .	Wilmington, .	Chief engineer, .	"J. H. Devereaux."
1900	Elmer P. Butterworth, .	Foxborough, .	Chief engineer, .	"Gulfcoast" (5,188 tons).
1901	David W. Warren, .	Everett, .	Chief engineer, .	"Mielero."
1901	Daniel F. Butler, .	North Easton, .	Chief engineer, .	"Gloria."
1904	Chas. W. Bumpus, .	Wakefield, .	Chief engineer, .	"City of Gloucester."
1904	Cecil L. McIntyre, .	Upton, .	Chief engineer, .	- -
1905	Walter C. Lockhart, .	Wakefield, .	Chief engineer, .	- -
1905	Chas. F. Tarr, .	Taunton, .	Chief engineer, .	"Liebenfels" (4,525 tons).
1910	Leslie S. Badger, .	Somerville, .	Chief engineer, .	"N. Hayden."
1910	Geo. W. Sibley, .	Worcester, .	Chief engineer, .	"Transportation" (4,015 tons).
1911	Robert F. Phinney, .	Roslindale, .	Chief engineer, .	"Matinicock" (6,766 tons).
1896	Forrest H. McIntyre, .	Gloucester, .	First assistant engineer.	"Daniel Millard."
1899	Frank P. Killion, .	Malden, .	First assistant engineer.	"Mauna Loa."
1900	J. J. Donohue, .	Cambridge, .	First assistant engineer.	"Oregon."
1900	James F. Rawdon, .	Worcester, .	First assistant engineer.	"Tuscan."
1903	Edmund E. Powers, .	Cambridgeport, .	First assistant engineer.	"Mongolia."
1904	Edw. J. Chadbourne, .	Reading, .	First assistant engineer.	"Henry F. Dimock."
1905	Thomas W. Chisholm, .	No. Billerica, .	First assistant engineer.	- -
1908	Geo. H. Cameron, .	Wakefield, .	First assistant engineer.	"Owego."
1910	R. Wilbur Anderson, .	Mattapan, .	First assistant engineer.	"Massachusetts."
1914	Leslie T. Severance, .	Malden, .	First assistant engineer.	"Malden."
1895	Fred'k H. Stackpole, .	Hyde Park, .	Second assistant engineer.	"City of Brockton."
1896	John O. Sargent, .	Worcester, .	Second assistant engineer.	"St. Louis."
1897	Perley W. Kimpton, .	Somerville, .	Second assistant engineer.	"Shawmut."
1898	Arthur P. Stevens, .	Nantucket, .	Second assistant engineer.	"Ponce."
1900	Earle P. Marshall, .	North Easton, .	Second assistant engineer.	"Uruguay."
1902	Augustus W. Hart, .	North Truro, .	Second assistant engineer.	"Chippewa."
1906	Victor M. Foster, .	East Boston, .	Second assistant engineer.	"Newton."
1908	Arthur E. Whiton, .	Wakefield, .	Second assistant engineer.	"Norwood."

Officers in the Merchant Marine — Concluded.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1909	Leo A. Keating, . . .	Natick, . . .	Second assistant engineer.	"Esparta."
1911	Samuel D. White, . . .	Hyannisport, . . .	Second assistant engineer.	- -
1912	Richard K. O'Connell, . . .	North Easton, . . .	Second assistant engineer.	"Currier."
1912	Louis H. Racicot, . . .	Lowell, . . .	Second assistant engineer.	"Ruth."
1913	Earle A. Lewis, . . .	Woods Hole, . . .	Second assistant engineer.	"Lampasas."
1913	Edward J. Fogarty, . . .	East Boston, . . .	Second assistant engineer.	"Ockenfels."
1914	Benj. H. Allen, Jr., . . .	Lawrence, . . .	Second assistant engineer.	"Vaterland."
1915	John Holmes, . . .	Campello, . . .	Second assistant engineer.	- -
1903	Rudolph Komenda, . . .	Somerville, . . .	Third assistant engineer.	"Hannibal."
1909	Fritz T. Kebler, . . .	Rochdale, . . .	Third assistant engineer.	"Onondaga."
1909	Richard K. Henry, . . .	Everett, . . .	Third assistant engineer.	"Everett."
1910	Chas. S. Hutchinson, . . .	Peabody, . . .	Third assistant engineer.	"Matinicoek."
1911	Patrick S. Coakley, . . .	Malden, . . .	Third assistant engineer.	- -
1912	Geo. R. Davison, . . .	Springfield, . . .	Third assistant engineer.	"Ancon."
1912	Walter L. Brewster, . . .	Somerville, . . .	Third assistant engineer.	"F. J. Lisman."
1913	Russell A. McLay, . . .	Lawrence, . . .	Third assistant engineer.	- -
1914	Arthur F. Higgins, . . .	Lawrence, . . .	Third assistant engineer.	"New York."
1915	Wilfred C. Herron, . . .	Lawrence, . . .	Third assistant engineer.	"Mexican."
1915	Mark E. Linehan, . . .	North Easton, . . .	Third assistant engineer.	- -
1915	Stanislaus P. J. Ciolkosz, . . .	Taunton, . . .	Third assistant engineer.	- -
1915	Philip J. Durney, . . .	Gloucester, . . .	Third assistant engineer.	"Meteor."
1915	Bernhardt Gerecke, . . .	Boston, . . .	Third assistant engineer.	"Altamaha."
1915	Clarence E. Stevens, . . .	W. Barnstable, . . .	Third assistant engineer.	"Katahdin."
1916	Carleton G. Reed, . . .	Lexington, . . .	Third assistant engineer.	- -
1917	Arthur Massey, . . .	Lawrence, . . .	Third assistant engineer.	"Cubadist."

Officers in the United States Navy.

1898	Clarence E. Wood, . . .	Fall River, . . .	Lieutenant Commander.	U. S. Navy.
1907	Thomas Baxter, . . .	South Dennis, . . .	Lieutenant, . . .	U. S. Navy.
1910	Russell H. Sullivan, . . .	Westfield, . . .	Acting pay clerk,	U. S. S. "Balch."
1909	Robert F. Hines, . . .	East Boston, . . .	- -	U. S. S. "Wainwright."
1898	Herbert E. Fish, . . .	Mattapoisett, . . .	Chief machinist, . . .	Fore River Shipbuilding Company.
1896	William F. Gourville, . . .	Everett, . . .	Machinist, . . .	Navy Yard, Portsmouth, N. H.
1903	C. Allan Holbrook, . . .	Marlborough, . . .	Machinist, . . .	U. S. S. "Oregon."

Officers in the United States Navy — Concluded.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1909	Louis F. Jones, . .	Wollaston, .	Machinist, first class.	Navy Yard, Charles-town.
1911	Jerome W. Hill, . .	Chicopee, .	Warrant gunner, .	U. S. S. "Brutus."
1902	John F. Murphy, . .	Worcester, .	Gunner, . .	U.S.S. "Delaware."
1904	C. George Dyson, . .	Billerica, .	Electrical gunner,	U. S. S. "Arizona."
1910	Geo. F. Griswold, . .	Watertown, .	Gunner's mate, .	U. S. S. "Chester."
1906	William R. Dolan, . .	Worcester, .	Chief electrician,	U. S. S. "Patter-son."
1905	Laurence G. Kelley, .	Taunton, .	Chief electrician,	U. S. S. "Jacob Jones."
1900	Hugh H. McDonagh, .	Worcester, .	Electrician, . .	U. S. S. "Cæsar."
1903	Fred S. Garland, . .	Randolph, .	Electrician, . .	U. S. S. "Alabama."
1903	Guy H. Hudson, . .	Somerville, .	Electrician, . .	U. S. S. "Alabama."
1906	Louis H. Houghton, .	Worcester, .	Electrician, . .	U. S. S. "Missouri."
1907	Eugene E. Chaney, .	Arlington, .	Electrician, . .	U. S. S. "North Dakota."
1907	Louis L. LaMontagne, .	Millers Falls, .	Electrician, . .	U. S. S. "Pilgrim."
1910	Howell S. Loundes, .	Worcester, .	Electrician, . .	U. S. S. "Georgia."
1911	Harvey M. Thorndike, .	Swampscott, .	Electrician, . .	U. S. S. "Nereus."
1911	Walter P. Lynn, . .	Beverly, .	Electrician, . .	U. S. S. "Birmingham."
1906	Carrol L. Morgan, . .	Beverly, .	Wireless electrician,	San Juan, P. R.

Officers in the National Naval Volunteers.

1906	Howard G. Copeland, .	Malden, .	Lieutenant Com-mander.	U. S. S. "Georgia."
1895	Wm. J. Fitzgerald, .	So. Boston, .	Lieutenant, .	- -
1906	Ernest J. Flannigan, .	Wakefield, .	Lieutenant, .	U.S.S. "Kearsarge."
1903	Edward J. Hogan, . .	Charlestown, .	Lieutenant, Eng.,	U. S. S. "Rodgers."

Enrolled in the United States Naval Reserve Force.

1897	Frederick A. Sparks, .	Provincetown, .	Lieutenant Com-mander.	U. S. S. "Machi-gonne."
1898	Carl E. A. Anderson, .	Roslindale, .	Lieutenant Com-mander.	U. S. S. "Orego-nian."
1900	Charles E. Lowe, . .	Roxbury, .	Lieutenant Com-mander.	"Cacique."
1901	Theodore H. Bicknell, .	Melrose, .	Lieutenant Com-mander.	U. S. S. "Hewitt."
1902	Fred C. Seibert, . .	Greenfield, .	Lieutenant Com-mander.	U. S. S. "Solace."
1902	A. Russell Cushing, .	Dorchester, .	Lieutenant Com-mander.	Naval Training Sta-tion, Bumpkin Island.
1903	Harry M. Bostwick, .	Northbridge, .	Lieutenant Com-mander.	U.S.S. "Abarenda."
1903	Robert B. Powers, . .	Brockton, .	Lieutenant Com-mander.	U. S. S. "Ajax."

Enrolled in the United States Naval Reserve Force — Continued.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1907	William M. Gifford, .	Woods Hole, .	Lieutenant Com-	U. S. S. "Beau-
1908	Ernest F. Robinson, .	East Boston, .	mander. Com-	fort." U. S. S. "Nero."
1909	Eric E. Winquist, .	Jamaica Plain, .	mander. Com-	mander. U. S. S. "Cuyama."
1909	Carroll E. Higgins, .	Somerville, .	mander. Com-	mander. U. S. S. "Pennsyl-
1895	Edwin C. Bliss, .	New York, .	mander. Lieuten-	vanian." -
1896	James H. B. Meehan, .	Lowell, .	ant, .	-
1897	Fred'k W. Jones, .	Winchester, .	Lieutenant, .	U. S. S. "Proteus."
1898	Louis E. Congdon, .	Boston, .	Lieutenant, .	U. S. S. "Massachu-
1898	Everett S. Ransom, .	Mattapoisett, .	Lieutenant, .	setts." U. S. S. "Hisko."
1901	Robert A. Patterson, .	Brighton, .	Lieutenant, .	U. S. S. "Parthe-
1901	Eugene I. K. Murphy, .	Worcester, .	Lieutenant, .	nia." U. S. S. "Solace."
1902	Arthur T. Luther, .	Swansea, .	Lieutenant, .	U. S. S. "Christa-
1902	Arthur Jensen, .	Provincetown, .	Lieutenant, .	bel." Mine Pilot, Panama
1902	Louis G. Ruggles, .	Neponset, .	Lieutenant, .	Canal. U. S. S. "Savan-
1903	Mark Woodbury, .	Townsend, .	Lieutenant, .	nah." U. S. S. "Vulcan."
1903	Edw. A. Mercer, .	Cambridge, .	Lieutenant, .	U. S. S. "Texan."
1903	James S. McGarry, .	Shrewsbury, .	Lieutenant, .	U. S. S. "Nero."
1904	Cyrus Barnes, .	Malden, .	Lieutenant, .	U. S. S. "El Almi-
1904	Andrew J. Iverson, .	Beverly, .	Lieutenant, .	rante." -
1905	Fred'k S. Walker, .	Dorchester, .	Lieutenant, .	Newport, R. I.
1905	Fred G. Carleton, .	Maynard, .	Lieutenant, .	U. S. S. "Malden."
1905	James A. Crocker, .	Nahant, .	Lieutenant, .	Commonwealth
1906	William A. Manchester, .	Brockton, .	Lieutenant, .	Pier. U. S. S. "Hewitt."
1906	Augustus C. Caldwell, .	Dorchester, .	Lieutenant, .	U. S. S. "Solace."
1906	Bradford N. A. Gladding, .	New Bedford, .	Lieutenant, .	U. S. S. "Ajax."
1906	Arthur G. Burbank, .	Carver, .	Lieutenant, .	U. S. S. "Bath."
1907	Walter L. Smith, .	Ashburnham, .	Lieutenant, .	U. S. S. "Kanawha."
1907	George H. Stickney, .	Worcester, .	Lieutenant, .	U. S. S. "Aborean."
1907	Harry L. Chick, .	Beverly, .	Lieutenant, .	U. S. S. "Pensa-
1907	Archie E. Bragg, .	New Bedford, .	Lieutenant, .	cola." U. S. S. "Saturn."
1908	Thos. B. Pellett, .	Worcester, .	Lieutenant, .	U. S. S. "Saturn."
1908	Chester B. Mellen, .	Quincy, .	Lieutenant, .	U. S. S. "Kanawha."
1908	Eugene P. Shevlin, .	East Boston, .	Lieutenant, .	U. S. S. "Tiger."
1908	Edw. S. Ells, .	Cambridge, .	Lieutenant, .	U. S. S. "Tulip."
1909	Robert S. Sparrow, .	Eastham, .	Lieutenant, .	U. S. S. "Gold
1909	Samuel J. Miller, .	Fall River, .	Lieutenant, .	Shell." U. S. S. "Dakotan."
1909	Everett B. Ward, .	Lynn, .	Lieutenant, .	U. S. S. "Brutus."
				U. S. S. "Celtic."

Enrolled in the United States Naval Reserve Force — Continued.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1911	Chas. C. Plummer,	Cambridge,	Lieutenant,	U. S. S. "Harvey H. Brown."
1911	Albert L. Ware,	Cambridge,	Lieutenant,	Naval Cadet School.
1911	Harold S. Dexter,	Mattapoisett,	Lieutenant,	U. S. S. "Vulcan."
1911	Raymond C. Vose,	Cambridge,	Lieutenant,	U. S. S. "Nereus."
1911	Fred'k J. Shaw,	Cambridge,	Lieutenant,	U. S. S. "Lakeview."
1911	Chas. F. Fornason,	Gloucester,	Lieutenant,	U. S. S. "Aphrodite."
1912	William A. Hamilton,	Cliftondale,	Lieutenant,	U. S. S. "Proteus."
1912	Alex. G. Perkins,	Newburyport,	Lieutenant,	U. S. S. "Achilles."
1912	Robert M. Gray,	Melrose,	Lieutenant,	"Wm. A. McKenney."
1912	Harold Ertel,	Longmeadow,	Lieutenant,	U. S. S. "Achilles."
1912	Ellenwood Folger,	Nantucket,	Lieutenant,	U. S. S. "Biddle."
1913	Borden A. Tuell,	New Bedford,	Lieutenant,	- -
1913	Ralph W. Dearborn,	Mansfield,	Lieutenant,	U. S. S. "Pennsylvanian."
1914	Edw. D. Newell,	Gloucester,	Lieutenant,	U. S. S. "Sterling."
1915	Herman S. Mayo,	Provincetown,	Lieutenant,	U. S. S. "Alaskan."
1915	William J. Bonner,	Dorchester,	Lieutenant,	U. S. S. "Cæsar."
1915	Chas. P. Jacobson,	Everett,	Lieutenant,	U. S. S. "Peter H. Crowell."
1916	Percy C. Stevens,	W. Barnstable,	Lieutenant,	U. S. S. "Edw. Pierce."
1895	Louis E. Burwell,	Somerville,	Ensign,	U. S. S. "Charleston."
1900	Ressie E. Bowser,	No. Abington,	Ensign,	U. S. S. "Nero."
1900	E. Newton Parker,	Greenfield,	Ensign,	- -
1902	Ernest L. Saunders,	Brockton,	Ensign,	U. S. S. "Justin."
1903	Philip C. Taisey,	Brighton,	Ensign,	U. S. S. "Mt. Vernon."
1905	Royal L. Barrows,	Boston,	Ensign,	U. S. S. "Bulgaria."
1906	Cassius E. Cushman,	Rockport,	Ensign,	U. S. S. "Maine."
1906	George C. Bosson,	Reading,	Ensign,	U. S. S. "Old Colony."
1907	Frederick M. Coughlan,	No. Dartmouth,	Ensign,	"Kroonland."
1907	Jos. R. Wier,	Saundersville,	Ensign,	U. S. S. "Nero."
1907	Don C. C. Lewis,	New Bedford,	Ensign,	U. S. S. "Nevada."
1909	William E. Caddigan,	Dorchester,	Ensign,	Commonwealth Pier.
1909	Ervin L. Kelley,	Medford,	Ensign,	U. S. S. "Azalea."
1910	Ernest B. Wyatt,	Wakefield,	Ensign,	U. S. S. "Vulcan."
1910	William Bowen,	Boston,	Ensign,	U. S. S. "Bunker Hill."
1911	George L. Lockhart,	Wakefield,	Ensign,	U. S. S. "Orion."
1911	Wm. M. Gorham,	Winthrop,	Ensign,	U. S. S. "Shawmut."
1911	Richard J. Routledge,	Needham,	Ensign,	Provincetown, Mass.

Enrolled in the United States Naval Reserve Force — Continued.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1911	Henry O. K. Hanson, .	Neponset, .	Ensign, . .	U. S. S. "Mt. Vernon."
1912	Ralph E. Merithew, .	Haverhill, .	Ensign, . .	U. S. S. "Bristol."
1912	Clarence L. Howard, .	Auburndale, .	Ensign, . .	U. S. S. "Sterling."
1912	John Marks, . . .	Gloucester, .	Ensign, . .	U. S. S. "Monticello."
1912	Albert W. Culley, . .	Fitchburg, .	Ensign, . .	U. S. S. "Vulcan."
1912	Richard J. Cavanaugh, .	New Bedford, .	Ensign, . .	U. S. S. "Antilla."
1913	Nils J. Peterson, . .	Brookton, .	Ensign, . .	U. S. S. "Proteus."
1913	Frank H. Nelson, . .	Fall River, .	Ensign, . .	- -
1913	Philip H. Waldron, . .	Westborough, .	Ensign, . .	- -
1913	Waldon A. McIntire, .	Gloucester, .	Ensign, . .	U. S. S. "Yacona."
1913	John A. Maddock, . .	Newburyport, .	Ensign, . .	U. S. S. "Ajax."
1913	Nelson T. Nutter, . .	Newburyport, .	Ensign, . .	U. S. S. "Jason."
1913	Gregory B. Nichols, .	Danvers, . .	Ensign, . .	U. S. S. "Limon."
1914	Ten Eyck H. Reed, .	So. Framingham, .	Ensign, . .	U. S. S. "Somerset."
1914	James A. Stowell, . .	Walpole, . .	Ensign, . .	U. S. S. "Santiago."
1914	Richard S. Tewksbury, .	Winthrop, .	Ensign, . .	U. S. S. "Wasaka."
1914	Samuel J. Lee, . . .	Roxbury, .	Ensign, . .	U. S. S. "Cæsar."
1914	Oliver P. Shattuck, .	South Acton, .	Ensign, . .	U. S. Naval Academy.
1914	F. Palmer Harrington, .	Malden, . .	Ensign, . .	- -
1914	Chas. P. Tucker, . .	Roxbury, .	Ensign, . .	U. S. S. "Orion."
1914	Arthur C. Goodwin, .	Cambridge, .	Ensign, . .	- -
1914	James A. Sweeney, . .	East Boston, .	Ensign, . .	U. S. S. "Utah."
1914	C. Harold Peterson, .	Norwood, .	Ensign, . .	U. S. S. "Proteus."
1915	Russell C. Damon, . .	Quincy, . .	Ensign, . .	- -
1915	Leland M. Marshall, .	Revere, . .	Ensign, . .	U. S. Naval Academy.
1915	Curtis C. Fales, . .	Westborough, .	Ensign, . .	U. S. S. "Cuyama."
1915	Chas. N. Bamforth, .	So. Lincoln, .	Ensign, . .	U. S. S. "Californian."
1915	Earle D. Hammond, .	Mattapoissett, .	Ensign, . .	U. S. S. "Kentuckian."
1915	Ralph S. Moore, . .	Newton, . .	Ensign, . .	U. S. S. "Montanan."
1915	Leif H. Konrad, . .	Roxbury, .	Ensign, . .	U. S. S. "Sterling."
1915	Wm. C. Davenport, .	New Bedford, .	Ensign, . .	U. S. S. "St. Louis."
1916	William E. Lord, . .	Springfield, .	Ensign, . .	U. S. S. "Dakotan."
1916	Randall F. Elder, . .	Everett, . .	Ensign, . .	- -
1916	Gerard R. Crosby, . .	Orleans, . .	Ensign, . .	U. S. S. "Minnesota."
1916	Frank M. Perrin, . .	Worcester, .	Ensign, . .	U. S. S. "Mexican."
1916	J. Prescott Mahoney, .	W. Wareham, .	Ensign, . .	U. S. S. "Wanderer."
1916	Byron H. Paine, . .	New Bedford, .	Ensign, . .	Newport, R. I.

Enrolled in the United States Naval Reserve Force — Concluded.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1917	Philip G. Nichols, . .	Peabody, . .	Midshipman, . .	U. S. Naval Academy.
1906	Raymond T. Gerrard, . .	Springfield, . .	Chief quartermaster.	- -
1917	Chas. R. Dennen, . .	Gloucester, . .	Chief quartermaster.	Commanding U. S. N. Signal Station.
1917	Percy A. Crosbie, . .	Everett, . .	Chief quartermaster.	"Reina Mercedes."
1917	Frank M. Moore, . .	Forest Hills, . .	Chief quartermaster.	Radio School, Cambridge.
1917	William M. Preston, . .	Beverly, . .	Chief quartermaster.	U. S. S. "Kanawha."
1911	Clifford Bailey, . .	Ludlow, . .	First class quartermaster.	- -
1915	Osgood R. Flagg, . .	Southborough, . .	First class quartermaster.	U. S. S. "Birmingham."
1916	Albert Bianchi, . .	Worcester, . .	First class quartermaster.	U. S. S. "Sterling"
1916	Howard U. Chase, . .	Nantucket, . .	Third class quartermaster.	U. S. S. "Jacob Jones."
1916	Harold S. Ireland, . .	Somerville, . .	Quartermaster, . .	- -
1916	Thomas B. Lufkin, . .	Gloucester, . .	Warrant boatswain,	- -
1909	S. Philip Grimshaw, . .	So. Dartmouth, . .	Chief boatswain's mate.	Fairhaven, Mass.
1910	Archibald W. Older, . .	Swampscott, . .	Chief boatswain's mate.	- -
1911	Roy A. Whittemore, . .	Malden, . .	Chief boatswain's mate.	- -
1912	Albert H. Acorn, Jr., . .	Quincy, . .	Chief boatswain's mate.	U. S. S. "Louise."
1913	John W. Crocker, . .	Nahant, . .	Chief boatswain's mate.	U. S. S. "Merimar."
1912	Harold L. Winslow, . .	Canton, . .	Boatswain's mate, second class.	U. S. S. "Nevada."
1913	Laurence E. Burns, . .	Winthrop, . .	Boatswain's mate, second class.	U. S. S. "Rodgers."
1916	Richard H. McKey, . .	Wonalancet, . .	- -	U. S. S. "Lamson."
1896	Harry L. Giles, . .	Everett, . .	Chief machinist's mate.	U. S. S. "Covington."
1913	Jos. D. Deneen, . .	New Bedford, . .	Chief machinist's mate.	U. S. S. "Ardent."
1904	Chas. H. Hill, . .	Reading, . .	Warrant machinist.	U. S. S. "Salem."
1914	Herbert T. Douglas, . .	Medford, . .	Warrant machinist.	- -
1916	C. Edwin Berglund, . .	Brockton, . .	Warrant machinist.	U. S. S. "Bunker Hill."
1917	James A. McGourty, . .	Worcester, . .	Warrant machinist.	U. S. S. "Lake-moor."
1903	Martin H. Greeley, . .	South Boston, . .	Machinist's mate, first class.	U. S. S. "Kittery."
1904	Benj. L. Welch, . .	Salem, . .	Machinist's mate, first class.	"Sadie Ross."
1916	Alex. J. Phillips, . .	Easton, . .	Machinist's mate, first class.	U. S. S. "Melville."
1916	Joseph A. Bain, . .	Lawrence, . .	Machinist's mate, first class.	- -
1916	Leo A. Benhard, . .	Springfield, . .	Machinist's mate, second class.	U. S. Armory, Springfield.
1916	Jos. P. Condrey, . .	Lowell, . .	Machinist's mate, third class.	U. S. S. "Birmingham."
1904	Chas. A. Hill, . .	Melrose, . .	Machinist's mate,	- -
1909	Frederick H. H. Sylvia, . .	Nantucket, . .	- -	U. S. S. "Ozark."
1904	Harold J. Dunn, . .	Canton, . .	Chief electrician,	U. S. S. "Kanawha."
1904	Leo W. Twombly, . .	Jamaica Plain, . .	Chief electrician,	Bumpkin Island.

Officers in the United States Marine Corps.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1903	Leander A. Clapp, . .	Brockton, . .	Captain, . .	U. S. Marine Corps.
1906	Clarence E. Nutting, . .	Cambridge, . .	Captain, . .	U. S. Marine Corps.
1915	Edward R. Rhodes, . .	Lowell, . .	Captain, . .	U. S. Marine Corps.

In the United States Army.

1894	F. W. Galbraith, Jr., . .	Springfield, . .	Colonel, . .	Commanding 147th U. S. Inf.
1906	Chas. W. Hanes, . .	Melrose, . .	Lieutenant, . .	- -
1910	Paul Case, . .	Brockton, . .	- -	U. S. Army Hosp. No. 6, A. E. F.
1913	Firth B. Andrews, . .	Melrose, . .	- -	102d Mach. Gun Battalion.
1912	Richard K. O'Connell, . .	No. Easton, . .	Private, . .	Co. E, 301st Engineers.
1914	Wesley H. Burton, . .	Plainville, . .	Private, . .	101st Reg. U. S. Inf., A. E. F.
1911	Walter H. Blanchard, . .	Gloucester, . .	- -	101st Supply Train, 26th Div., A. E. F.
1915	Chas. Pope, . .	Springfield, . .	- -	146th F. A., U. S.
1901	Wm. R. Bolton, . .	Springfield, . .	Private, . .	Co. F, 112th U. S. Eng.
1913	Elmer D. Taggart, . .	Wakefield, . .	Private, . .	Camp Gordon, Atlanta, Ga.

Officers in the United States Coast Guard Service.

1895	Philip W. Lauriat, . .	Medford, . .	1st Lieutenant, . .	Purchasing officer, San Francisco.
1899	James A. Alger, . .	Reading, . .	1st Lieutenant, . .	Fourth Naval District.
1900	John F. McGourty, . .	Worcester, . .	2d Lieutenant, . .	"Tampa."
1906	William F. Towle, . .	Boston, . .	2d Lieutenant, . .	"Androscoggin."
1897	Lorenzo C. Farwell, . .	Dorchester, . .	1st Lieut., Eng., . .	Recruiting Office, New York City.
1897	Albert F. Patterson, . .	Townsend, . .	1st Lieut., Eng., . .	"Manning."
1898	John T. Carr, . .	Malden, . .	1st Lieut., Eng., . .	"Tampa."
1896	Webb S. Maglathlin, . .	Bridgewater, . .	2d Lieut., Eng., . .	"Snomish."
1906	Henry C. Roach, . .	New Bedford, . .	2d Lieut., Eng., . .	"Androscoggin."
1907	Paul R. Smith, . .	Concord, . .	3d Lieut., Eng., . .	"Tallapoosa."

Ship Construction.

1898	Jos. E. Sheedy, . .	Reading, . .	Assistant manager.	Seattle Shipbuilding Company.
1898	Geo. F. Waite, . .	Winthrop, . .	- -	American International Shipbuilding Company.

Instructors.

Graduated.	NAME.	Residence.	Position.	Vessel or Service.
1900	Edward Smith,	Wellesley,	Navigating officer,	"Ranger."
1900	Gershom Bradford,	Duxbury,	Navigating officer,	"Newport."
1902	Osborne E. McKay,	Provincetown,	Chief officer and instructor.	"Gov. Dingley."
1903	Fred'k W. Farquhar,	Lawrence,	Instructor in electricity.	"Ranger."
1912	John W. Thompson,	Marion,	Watch officer,	"Ranger."

United States Steamboat Inspection Service.

1896	Alvin W. Haynes,	Somerville,	Assistant inspector of hulls.	New York, N. Y.
1902	Herman T. Parker,	Rockport,	Assistant inspector of hulls.	Boston, Mass.
1909	William A. Sillars,	Danvers,	Assistant inspector of hulls.	Providence, R. I.
1899	Frank B. Davis,	Dorchester,	Assistant inspector of boilers.	New Orleans, La.

Officers in the United States Lighthouse Service.

1896	George E. Eaton,	Wakefield,	Captain,	"Anemone."
1904	John F. Williamson,	Brockton,	Captain,	"Lilac."
1905	Harry W. Maynard,	Winthrop,	First officer,	"Sumac."
1910	Chester R. Morris,	Springfield,	First officer,	"Lilac."

In the Hydrographic Office, Navy Department.

1896	Charles S. Young,	Boston,	Nautical expert,	U. S. Hydrographic Office.
1914	Joseph L. Turner,	Amherst,	Nautical expert,	U. S. Hydrographic Office.
1916	Harold R. Congdon,	Roxbury,	Nautical expert,	U. S. Hydrographic Office.

APPROPRIATIONS.

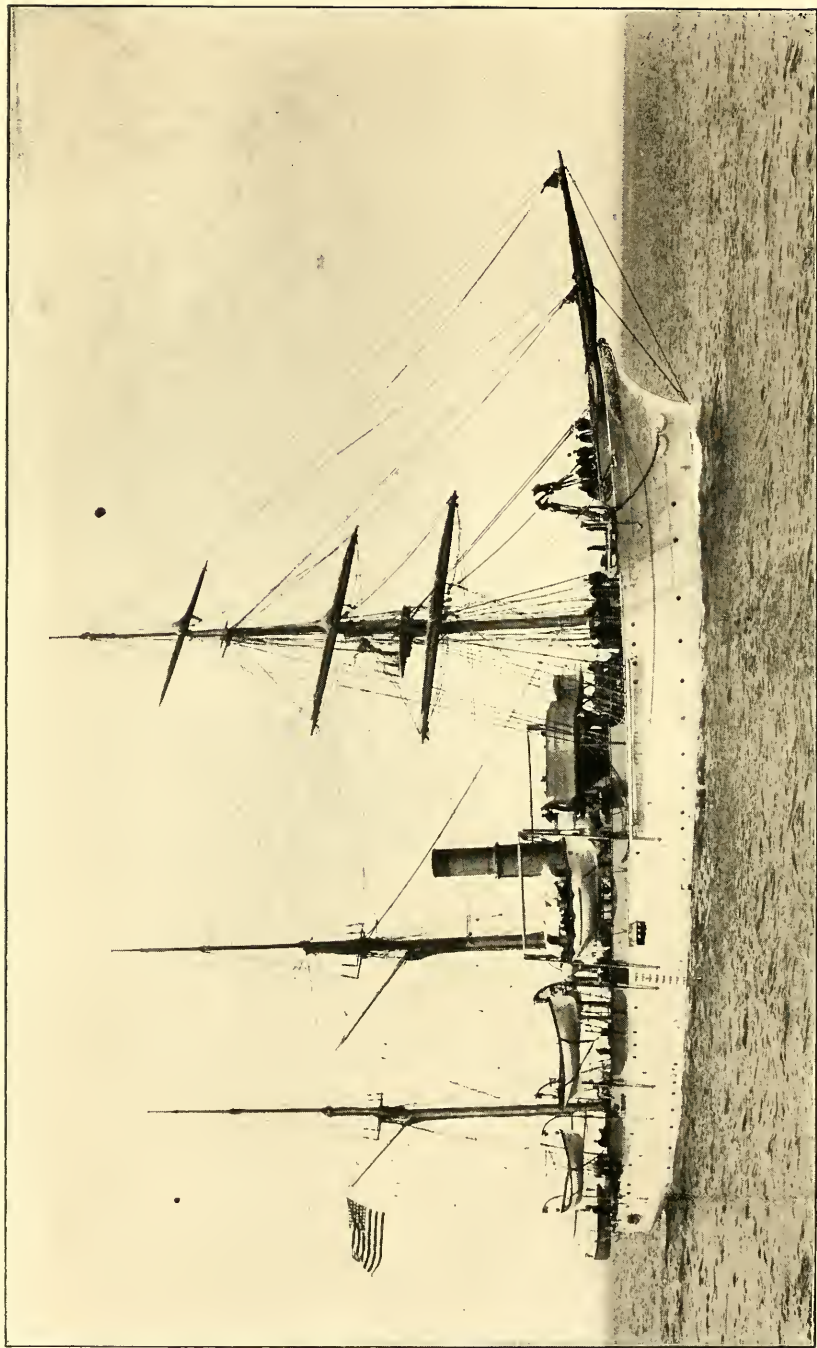
The appropriations for the school for the fiscal year 1917, from Dec. 1, 1916, to Nov. 30, 1917, are here accounted for as follows:—

<i>Current Expenses.</i>	
Appropriation,	\$67,000 00
Expended:—	
Pay roll,	\$31,344 78
Provisions,	20,923 35
Seamanship department,	3,290 29
Engineering department	6,742 55
Instruction,	966 79
Miscellaneous,	3,825 81
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Total amount expended,	\$67,093 57
Less balance allowed from 1916,	99 49
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	66,994 08
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Balance unexpended,	\$5 92

<i>Office Expenses.</i>	
Appropriation,	\$6,000 00
Expended:—	
Salaries,	\$3,286 34
Rent of office, and janitor's service,	1,098 67
Printing,	581 59
Stationery and postage,	399 49
Telephone and telegrams,	204 60
Commissioners' expenses,	19 85
Miscellaneous,	411 52
	<hr/>
Total amount expended,	\$6,002 06
Less amount allowed by Retirement Association,	3 30
	<hr/>
	5,998 76
	<hr/>
Balance unexpended,	\$1 24

Respectfully submitted,

FRANCIS T. BOWLES, *Chairman.*
WILLIAM E. McKAY.
CLARENCE E. PERKINS.



The "Ranger" leaving Boston on the Annual Summer Cruise.